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RETEC

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November 7, 1997

Mr. Eric Winiecki
EPA Remedial Project Manager
EPA Region 10, ECL-111
1200 Sixth Avenue
Seattle, WA 98101

RE: REQUEST TO MODIFY NEW ASPHALT CONCRETE PAVEMENT PERFORMANCE STANDARD - HARBOR ISLAND S&GOU SUPERFUND SITE

Dear Mr. Winiecki:

On behalf of the Harbor Island Soil and Groundwater Operable Unit (S&GOU) Superfund Site Steering Committee, Remediation Technologies, Inc. (RETEC) is submitting this request for EPA to consider modifying the cap performance standard at the S&GOU. As further explained below, this request would apply to new asphalt concrete pavement (ACP) placed over exposed soils that exceed cleanup goals during remedial actions. The modification would not change the cap thickness or materials of contruction, but would change the performance standard from a permeability-based value to a compaction-based value.

The current remedy for capping (as provided in the *Amended Statement of Work for Remedial Design and Remedial Action at the Soil and Groundwater Operable Unit of the Harbor Island Superfund Site, Seattle, Washington*) is to place a minimum 3-inch thick layer of ACP that has a permeability of 10^{-5} centimeters per second (cm/s) over previously determined areas of exposed soils that exceed cleanup goals (as stated in Table 7 of the Record of Decision). As discussed with both you and Keith Rose on November 5, it is our understanding that EPA's intent in specifying a pavement permeability of 10^{-5} cm/s pavement was so capping activities could be completed with a readily available standard pavement mix, such as a Washington State Department of Transportation (WSDOT) Class B ACP, as opposed to a less available (and more expensive), custom-batched, low permeability asphalt mix.

The existing WSDOT standards defined for batching, placing and testing asphalt concrete do not include a permeability criteria. Aside from the various percentages of the asphalt mix components, the primary field parameter used in verifying that newly constructed asphalt meets WSDOT specifications is the measurement of field compaction. The minimum acceptable compaction per individual sample test necessary to meet WSDOT standards is 91 percent Rice density. Furthermore, the acceptable range of compaction is 92 to 96 percent Rice density for field test sections constructed on large paving projects utilizing WSDOT asphalt.

As part of the remedial action capping activities presently underway at the Design Set 1B properties, RETEC employed the services of a third-party physical testing firm to collect and test samples of WSDOT Class B asphalt concrete. Samples were obtained from the M.A. Segale batch plant in south Seattle, which is the source of WSDOT Class B asphalt for the Design Set 1B capping sites. Three permeability tests were performed on laboratory-compacted cores ranging from 93 to 97 percent Rice density. A regression of the laboratory data was performed and the linear solution was found to have the best correlation. Figure 1 is a graph of permeability

versus compaction for the WSDOT Class B ACP samples recently tested. As illustrated in Figure 1, all lab test samples met the minimum WSDOT compaction of 91 percent. The only sample that met the EPA permeability requirement of 10^{-5} cm/s was Sample #3, which was compacted to a relatively high level of 97 percent. Based on this data, a minimum compaction of 96.7 percent Rice density is necessary to meet the EPA permeability goal.

On November 4, RETEC directed a paving contractor to place WSDOT asphalt in the capping area at UPRR Parcel A. The base of the capping area was initially prepared with a 5-inch lift of crushed rock base course compacted in excess of 95 percent Rice density. The paving contractor was informed of the ACP compaction goal of 97% Rice density, necessary to achieve the EPA-required permeability goal. Once placed, field compaction testing indicated a value of 92% Rice density was achieved. Based on Figure 1, this level of compaction corresponds to a permeability of approximately 2.24×10^{-04} cm/s. It was learned following ACP placement at UPRR that the level of compaction necessary to achieve the 10^{-5} cm/s goal is rarely achievable in the field for Class B asphalts. Values above 96 percent are typically rejected by WSDOT inspectors as an erroneous test.

Based upon both the laboratory testing and subsequent field compaction testing at the UPRR site, it appears that readily available standard asphalt constructed to WSDOT specifications cannot achieve the EPA cap permeability requirement of 10^{-5} cm/s. As there are numerous other sites yet to be paved during remedial actions at the S&GOU, RETEC is requesting that EPA modify the performance standard for new ACP from a permeability criteria of 10^{-5} cm/s to a WSDOT compaction criteria of a minimum 91 percent to a maximum 96 percent Rice density . The bases for this request are listed below:

- asphalt placed to WSDOT standards on Harbor Island capping sites will result in a suitable barrier for dermal contact with exposed soils, and will also minimize infiltration of precipitation
- the large areas that require capping with ACP are being constructed in conjunction with other drainage improvements such that stormwater will not be able to pond and infiltrate
- the constituents that are driving the capping actions are metals such as arsenic, that bind with native soil and resist leaching, and heavier TPH constituents that are not readily leachable.

Until this issue can be resolved, no additional paving will be performed. We would appreciate a written response by December 5 so that we may proceed with the scheduled ACP placement at Fisher Mills, also a Design Set 1B property. We appreciate your time and consideration in this matter. Should you have any comments or questions please feel free to call.

Sincerely,
REMEDIATION TECHNOLOGIES, INC.

Bryan W. Stone

Bryan W. Stone, P.E.
Project Manager

cc: K. Rose - EPA, R. Sadowski - AGI, D. Defaccio - HIMW, F. Fredrickson - Fisher Mills
D. Heineck - Summit Law, A. Lovely - Lovely Consulting, Inc., E. Stetz - Port of Seattle

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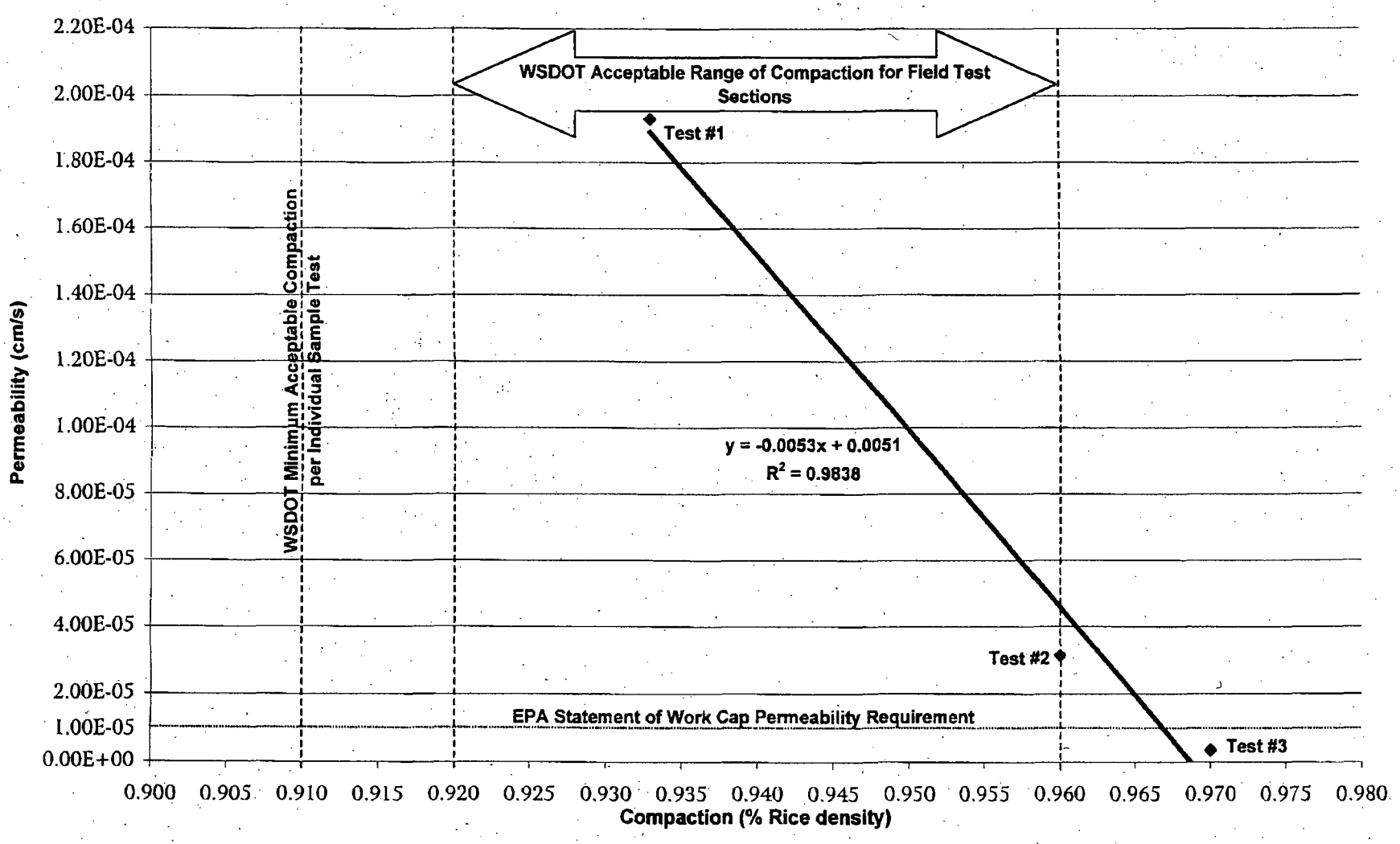
Figure 1 Permeability Data for WSDOT Class B Asphaltic Concrete
Harbor Island S&G OU Superfund Site Design Set 1B



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HARBOR ISLAND SOIL & GROUNDWATER OPERABLE UNIT SUPERFUND SITE

Date: 11/7/97 **Total Pages:** 4
From: Bryan Stone **Task Number:** 1-2900-965

Message: Letter request to modify pavement performance standard, as per our previous discussions.

	Fax Sent to:	Fax #	Speed Dial #
☐	David Heineck - Summit Law	281-9882	53
☐	Anita Lovely - LCI	386-2456	54
☐	Elizabeth Stetz - Port of Seattle	728-3188	82
☒	Keith Rose - EPA	553-0124	~~00~~ 93
☐	Mark Valentine - de maximis	682-2187	52
☐	Fred O. Fredrickson - Graham & Dunn	340-9599	77
☐	Gene Erhardt - Fisher Mills	682-3676	71
☐	Patrick Paulich - Thorsrud Cane &	386-7795	55
☐	Dick DeFaccio - H.I.M.W.	623-6011	56
☐	Anne DeVoe Lawler - Jameson, Babbit...	292-1995	69
☐	Shawn Lilley - Lonestar NW	764-3054	81
☐	Harold Perantie - Aspen Paints	682-4605	90
☐	Bill Joyce - Ogden Murphy Wallace	447-0215	91
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☒	Other Eric Winiecki	EPA	

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